

ABSTRACT

A system and method for calculating the toner usage of a multifunction peripheral device using software and the compressed form of the raster image without uncompressing the image.

The method enables the calculation of toner usage based on the statistics of actual colorant consumption while minimizing the approximation error. The compressed image data includes encoded data representing an image mapped onto a first color space. The received compressed image is analyzed to generate a pixel count of each color associated with the image corresponding to a color in the first color space. In the event of a different device color space, the pixel count is translated to a second color space, and an aggregate pixel count is calculated.

When statistical data from actual operations is available, table data on the earlier usage is compared with the pixel count calculated, resulting in an approximate toner usage having low approximation error. When no previous statistical data is available, the method uses the manufacturer stored toner usage and compares the pixel count thereon. A device table is then generated, storing an adjusted table containing actual usage statistics for further calculations regarding subsequent usages.